California State Information Technology Strategic Plan

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Message from the State CIO

November 2005

I am pleased to present the California State Information Technology Strategic Plan, as updated by the Information Technology Council pursuant to its annual review and strategic planning process. The plan, originally adopted in November of 2004, guides the acquisition, management and use of technology within the Executive Branch of State government for a five-year period (2005-2009).

The ideas and contents of the original plan had been under development and consideration for over two years and represented the collective research and judgment of literally hundreds of the State's IT and program leaders. We began executing on that plan during 2005. We fully accomplished some of our action items and objectives, began others and put some on hold pending completion of other contingencies. A summary of our progress appears in Appendix C.

Our challenge is to continue executing on the plans we have made. The plan has a full menu of activities, and an aggressive timetable for implementation. We are asking a great deal of ourselves, and we will need the strong support of the State's policy-makers in the Executive and Legislative Branches to accomplish our goals. The plan is worthy of that support. It sets us on the right course to improve services to the public while reforming State government operations in the process.

Working collaboratively as a team, we can put the State's information technology program back on track and, in the process, provide the support that is so essential to improving state operations. For the State's information technology leaders, that is our challenge, our obligation and our opportunity. Join me in transforming California government, making it more responsive to the diverse needs of our great State.

J. Clark Kelso
Chief Information Officer
State of California

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Introduction

The pressure on California State Government has never been greater – to be more efficient, cost effective, convenient and accessible to the citizens it serves. It is hard to imagine any significant statewide initiative that could achieve such a transformation in service delivery and state operations without technology as a major component. But today, our technology programs are not capable of meeting these challenges.

Many of our service delivery systems are outdated and inconvenient, internal business systems are antiquated and fragmented, and statewide planning for technology is ineffective. Our technology programs operate with an agency focus and for the convenience of government rather than with an enterprise focus and for the convenience of citizens, resulting in duplication, waste and inconsistent results. Our heavy reliance on outdated legacy systems and decentralized, non-standardized technology architecture dissipates limited dollars and human resources. This situation exposes the state to higher overall operational costs and increased vulnerabilities to security threats and architecture breakdowns.

Technology for a changing California

As the Nation's largest state and the world's fifth most powerful economic engine, California has long been the home of dynamic change. Governor Arnold Schwarzenegger has made it clear that State government must be integrated into the fabric of this change. How the State manages its information technology (IT) resources in the coming years will be critical to the success of its program efforts.

The trends that are faced by California government are staggering:

- The State's population continues to grow vigorously, with about 500,000 new California residents added each year.
- Diversity is unparalleled in the history of mankind; state and local government employees provide services to people having over 100 different native tongues.
- The population is bulging at the ends of the scale – with the largest numerical growth among the young and the highest rate of growth among the elderly.
- Privacy and security – both physical and cyber – are increasingly important to California residents.
- Californians continue to be concerned about the environment and demand government action to preserve our natural heritage.
- On the heels of a serious recession, California's economy is again expanding and showing its former resiliency.

These facts add up to continuing increases in demand for State and local government services. Moreover, the taxpayers have made it clear that higher taxes cannot be viewed as an instant governmental remedy. Consequently, greater effectiveness and efficiencies are the best avenues available to State program managers for improving the satisfaction of their clientele.

Information technology is a key contributor to both the execution of State programs and a measurement of their success. Although each department and program has unique technology needs that must be addressed with an eye to the specific business needs of the organization, several cross-cutting needs and priorities can be identified that are important to most or all State programs and customers. Among these are the following:

- Further development of Internet- and technology-based channels for the delivery of State information and services for the convenience of the public.
- A need for consistent and accurate data that will interface with other systems as necessary.
- The assurance that confidential information and valued assets are secure.
- The ability to easily access information and services while ensuring that such access is allowed only to those intended.
- Availability of appropriate tools for executive oversight, management decisions, and program implementation.
- Efficient and cost saving means to deliver services.
- Need to respond and transact quickly.
- Need to maintain systems and services in adequate working order throughout their life cycles and to replace or retire them when support is no longer possible.

We need strategic leadership for change.

This Statewide Information Technology Strategic Plan outlines a bold but necessary agenda for redefining how we manage our information technology resources to improve service delivery and streamline internal operations. It is a plan to align our technology to an enterprise perspective and focus our investments on those initiatives that will enable significant improvement in statewide service delivery and business operations.

Our adopted mission statement recognizes and emphasizes information technology's organizational role as a support player – information technology should not drive program design and implementation; instead, business needs should drive information technology. Our mission is as follows:

> Information technology support for the Executive Branch of California State Government will operate as a seamless enterprise, delivering consistent, cost-effective, reliable, accessible and secure services that satisfy the needs of its diverse public and private customers, including the People of California, its business communities and its public sector agencies.

We have adopted six strategic goals to focus our efforts for the next four years. These goals, and their associated objectives and action items, detail the steps necessary for California to harness the power of information technology to improve service delivery and streamline internal operations. Those goals are as follows:

1. Make Government services more accessible to citizens and State clients.

2. Implement common business applications and systems to improve efficiency and cost-effectiveness.
3. Ensure State technology systems are secure and privacy is protected.
4. Lower costs and improve the security, reliability and performance of the State's IT infrastructure.
5. Develop and rebuild our technology workforce.
6. Establish a technology governance structure.

In order to keep our action items as concrete and meaningful as possible, we have generally limited their horizon to the next 12 to 18 months. This means in many cases that full implementation of a goal or objective will require additional action items that have not yet been included in this document. During 2005, we engaged in a substantial amount of detailed planning for reaching our goals and objectives, and this additional planning is reflected in this updated strategic plan document. We also successfully created the Department of Technology Services (DTS) through reorganization of the Stephen P. Teale Data Center (TDC), the Health and Human Services Data Center (HHSDC) and the Office of Network Services (ONS) from the Department of General Services (DGS). With this new Department in place, we are positioning ourselves for additional consolidation of IT infrastructure. This updated strategic plan reflects this progress as well.

Overall, this plan is a mandate for changes that can enable the most significant transformation ever seen in California government. It is time for action.

Mission

Information technology support for the Executive Branch of California State Government will operate as a seamless enterprise, delivering consistent, cost-effective, reliable, accessible and secure services that satisfy the needs of its diverse public and private customers, including the People of California, its business communities and its public sector agencies.

Goals, Objectives and Actions

Goal 1: Make Government Services More Accessible to Citizens and State Clients

The State will complete a customer-focused, technology-enabled transformation in service delivery to improve the accessibility, value and cost-effectiveness of services, benefits and information provided to the public, businesses, other government agencies and state employees.

Government services must be made widely available through multiple delivery channels. We should move beyond the face-to-face, paper-based interactions characteristic of the 19th and 20th centuries, and follow the lead set by other 21st century organizations around the world which have used information technology to make information and services more widely accessible to customers. Like those organizations, we must go to the public instead of making the public come to us. Modern telecommunication and information technologies deployed independently and in concert, can support this transformation in information, service and benefits delivery. Transformation in service delivery is an imperative for 21st century government.

Objective 1- Develop A Foundation For Transforming Government

The State will implement an enabling management and technical foundation for the transformation of government, making the technical solution implementation process more customer-focused, strategic, efficient, and economical.

The essential ingredients of this foundation include:

- Leadership focused on the redesign of business processes and the exploration and application of technologies across organizational boundaries to improve efficiency, interoperability, and cross-organizational program integration.
- A governance process for evaluating government needs and challenges across organizational boundaries and prioritizing those initiatives with a high return on investment and public acceptance.
- Common business processes that facilitate interoperability and data sharing.
- Shared applications, architectures and code.
- Streamlined project development, management and implementation to capture early benefits and encourage transformation.
- State workforce skilled in implementing industry best practices.

A key driving force for this transformation will be a federated ownership and development architecture for the State's presence on the Internet. Other objectives and action items throughout this plan will also contribute to the essential ingredients listed above.

Actions:

1. There will be a Director of e-Services, who reports to the State Chief Information Officer (State CIO), with the responsibility for providing strong statewide leadership for the review of business processes that lend themselves to e-government applications and for the exploration and implementation of technologies to improve service delivery. The Director of e-Services will collaborate with Cabinet Secretaries, the Department of Finance (DOF), the Department of Personnel Administration (DPA), and the Department of General Services (DGS) and other state agencies to facilitate process reengineering and the application of enabling technology.
2. By March 2006, the State CIO will identify at least five projects that will serve as models or case studies for e-Services investment including:
    a. A project focused on the delivery of services to citizens (such as licensing, or call center services, or recreation and visitor information, or consumer protection).
    b. A project focused on delivery of services to businesses (such as licensing, or workers compensation, or electronic payment and filing).
    c. A project focused on services that integrate intergovernmental programs (such as self service eligibility determination, or online grants processing, or social services benefits delivery).
    d. A project focused on delivery of services internal to state operations (such as online travel and human resources transactions, or data sharing between state agencies).
    e. A project focused on reorganization of information on departmental web pages around major customer groups or users (e.g., public user, business user, government user) consistent with new look-and-feel standards to be adopted by the State CIO.
3. By June 2006, the State CIO will direct the development of streamlined application development processes to decrease development time, complexity and cost by increasing the re-use of developed applications and web services. Case studies and best practices will be identified.
4. The California Portal Steering Committee will guide development of a new State Portal including: (a) identification and design of shared services; (b) definition of the technical architecture and governance process; (c) identification of additional projects to leverage shared resources; and (d) by July 2006, approval of the first architecture for the state portal.

Objective 2- Leverage Services between State Agencies, Federal and Local Government And Promote Interagency and Intergovernmental Data Sharing

The State will pursue opportunities to collaborate with federal and local agencies and within state government to leverage e-government services. The State will coordinate interagency and intergovernmental data collection and management, to improve data sharing capabilities and reduce costs of acquiring and managing data.

Many federal, state and local government programs are interrelated or interdependent. Working together, governmental agencies can deliver better services to citizens and reduce the overall cost of implementing and maintaining service delivery systems.

System and database designs often prescribe unique definitions and program-focused restrictions, inhibiting the use of data for other purposes, and resulting in duplication and incompatibility of data. The State can do a much better job of sharing data through collaborative planning efforts.

Actions:

1. By March 2006, the State CIO will begin a discussion with groups or communities of common interest across Agencies and departments to develop policies and methodologies for the efficient exchange of information between systems and across governmental organizational boundaries..
2. By June 2006, the State CIO will coordinate the sponsorship of one or more projects for shared services that can be implemented in partnership with Federal and/or local government agencies.
3. By January 2007, under the guidance of the groups established in action item (1) above, departmental CIO's will identify data repositories within their agencies, the clients for the data, others who may have need for the data, and limitations (including confidentiality) to presently sharing the data.
4. By July 2007, the working groups established in action item (1) above will submit a report to the State CIO, which prioritizes steps to be taken to expand interagency data sharing consistent with privacy interests and fair information practices.
5. As part of the implementation of the 21st Century Human Resources and Payroll Project, the State Controller's Office (SCO), as the owner of state employee name and identifying information, will establish a uniform method for state agencies to access employee information. Selected state agencies will be identified as the owners of data for citizens and businesses consistent with the intent to maximize opportunities for collaborative data collection, management, and data sharing capabilities.

Objective 3 - Leverage The State's Geospatial InformationSystems (GIS) Assets

To support the State's programs and business needs, the State must develop processes for ongoing assessment of the State's geospatial data assets, management and supporting web services.

Actions:

1. There will be a Geospatial Information Officer (GIO), who reports to the State CIO, with responsibility for leading and coordinating the development of geospatial information

systems (GIS). The GIO will work with the California GIS Council to sponsor an integrated State Geospatial Data Service that will define the data architecture, systems, standards, processes and coordinate the availability of geospatial data used by state agencies. The GIO will provide opportunities to share GIS data and services with cities and counties through collaborative efforts.

2. By January 31, 2006, the State CIO will convene a GIS Review Board comprised of business and program executives representing agencies that depend on or otherwise make significant use of geospatial resources to provide guidance and direction for the State's geospatial planning processes.
3. By March 31, 2006, the GIO is to develop a State of California Geospatial Data and Web Services Plan that reflects the needs of state agencies for geospatial data, software licenses and web services. The plan is to identify specific geospatial data and web services and include an annual implementation plan (e.g., priorities, partners, data stewards, funding, roles, responsibilities and delivery schedule). The GIO will synchronize this plan with federal and local government partner interests by working through the California GIS Council for adoption and direction.

Goal 2: Implement Common Business Applications and Systems to Improve Efficiency and Cost-Effectiveness

The State will replace duplicate, conflicting and outdated applications and systems with common solutions that are interoperable enterprise-wide across all departments in the Executive Branch of state government.

The scope of this effort will include common business functions such as financials, including planning, budgeting, general accounting, accounts receivable, accounts payable, human resources management, fee collection, asset management, document and records management, workers compensation, purchasing, inventory and vendor control, and grants processing systems. A common suite of back office systems, supported by interoperability among those systems, will enhance the state's capability to manage its resources and assets, providing higher public accountability. Common and interoperable systems will also provide more robust, comprehensive business capabilities.

Objective 1 – Continue Efforts to Implement Enterprise-Wide and Interoperable Applications Already Started

There are several important initiatives currently underway that should be continued and that will be key components of the state's common suite of business applications.

Actions:

1. By the end of the year 2005, the State Controller will designate a systems integrator for the State Controller's 21st Century Human Resources and Payroll Project.
2. By March 2006, the State Controller will begin the two-year development phase for the Employment, Payroll and Employee Self-Service modules.
3. The Department of Water Resources (DWR), the State Controller's Office (SCO) and the Department of Corrections and Rehabilitation (DOCR) will continue to coordinate their business systems projects with the Department of Finance (DOF) and other control agencies, as well as with the Executive Council, to maximize the interoperability of their business systems with enterprise-wide planning. Any department planning department-wide business systems should similarly coordinate its planning and implementation to maximize interoperability.
4. The State Controller's Office (SCO) will continue its good outreach work with all 21st Century Human Resources and Payroll Project stakeholders.

Objective 2 – Ensure Executive Sponsorship for Common Business Management System Development, Implementation and Maintenance

The State CIO will engage program leadership to guide statewide technology planning and implementation.

Technology initiatives must have the support of senior program leaders and focus on the business challenges of state agencies. By engaging senior level program leaders, alignment with state business goals and objectives is assured.

Actions:

1. The State CIO will continue to sponsor the Executive Council to oversee the planning, acquisition and implementation of common Executive Branch business management applications and systems. The Executive Council is comprised of the Director of the Department of Finance (Chair); the State Controller; the State Treasurer; the Secretary of the Business, Transportation and Housing Agency; the Secretary of the Health and Human Services Agency; the Secretary of the State and Consumer Services Agency; the Secretary of the Department of Corrections and Rehabilitation; the Director of the Department of General Services; the Director of the Department of Personnel Administration; and the State CIO.
2. The Executive Council will sponsor development of a "visioning plan" that sets forth the strategy for acquiring common statewide business management systems to ensure they meet the State's business needs, budget development requirements and timelines.
3. The Executive Council will identify departments to lead specific projects supporting the development of common business applications and systems, and the Executive Council will encourage all departments planning and implementing business systems to coordinate their department's efforts to maximize interoperability.

Goal 3: Ensure State Technology Systems are Secure and Privacy is Protected

The state will improve interdepartmental coordination, conduct rigorous security assessments, participate in comprehensive homeland security exercises and evaluations, adopt secure architectures, and mitigate security and privacy risks to its systems, infrastructure and information.

Natural disasters and the rise of domestic and international terrorism place the state's technology systems at increased risk at a time when business functions are becoming increasingly dependent on reliable technology support. Catastrophic events, as well as attacks against our technology infrastructure and systems, can have a severe impact on business operations. We must work together to ensure California's systems are sufficiently safeguarded and robust enough to support homeland security needs and to maintain business continuity of state government.

Moreover, the State's possession of significant amounts of personal and confidential information, and the risk of disclosure or inappropriate use of that information, makes privacy protection a paramount concern. In California, where "privacy" is expressly protected by our State Constitution, the State's obligation to safeguard this information is of constitutional dimension.

Objective 1 – Adopt Statewide Security and Privacy Protection Standards

The State will adopt statewide security and privacy protection policies and standards consistent with the state's enterprise architecture, for program data access, network connectivity, desktop management, server configuration, Internet connectivity, and external access to technology services.

Implementation of statewide security policies and standards will help ensure the elimination of structural vulnerabilities from the state's information technology architecture and systems, to enable more uniform, robust security measures to be implemented.

Actions:

1. By March 2006, based on the Best Practices workgroup input, the State Information Security Officer (SISO), working collaboratively with the Office of Privacy Protection, will identify and publish best practices for information security and privacy protection. The best practices will be updated at two-year intervals by the SISO.
2. By March 2006, the SISO will identify and publish a Risk Assessment Checklist to be used by state agencies to assist in compliance with State Administrative Manual Sections 4842.1 and 4845. The checklist will be updated at two-year intervals by the SISO.
3. By July 2006, the IT Council will develop general standards for laptop security software encryption implementation.

4. By June 2006, the IT Council will develop guidelines for state departments to follow in developing their IT security programs to meet their individual department needs. Guidelines will offer at least framework and format consistency across departments with different program needs and organization size.
5. By October 2006, the SISO will lead workgroups as needed to assist in Operational Recovery Planning and IT Security policy needs and recommend changes to improve effectiveness and clarity.

Objective 2 – Assess Security Risks

The State will conduct security risk self assessments, and participate in homeland security exercises and evaluations.

The rigorous administrative review, and physical testing and evaluation of State security and IT recovery programs will strengthen security measures, improve security awareness and lead to improved disaster response.

Actions:

1. By March 2006, the SISO, in collaboration with representatives from the California Military Department, will publish a report on the 2005 California Military Department Homeland Security exercises.
2. State agencies will continue to participate in California homeland security exercises led by the Office of Homeland Security to assess the adequacy of plans, procedures, and resources required to provide continuous technology support to critical state business functions. The assessments and exercises should encompass not only intradepartmental systems, but also interdependencies among departments.

Objective 3 – Develop a Statewide Security Risk Mitigation Plan

The State will analyze available information about operational recovery readiness and IT security risks throughout the state and develop a Statewide Information Security Risk Mitigation Plan.

The strength of security measures depends on an integrated statewide risk management strategy.

Actions:

1. By January 2006, using products developed by the Operational Recovery Workgroup, the SISO will publish a process for cross-departmental Operational Recovery peer reviews.
2. By June 2006, the IT Council Security Committee will review and analyze the results of the homeland security exercises led by the California Military Department to identify the most serious and common IT security threats.
3. By August 2006, the SISO will complete development of a Statewide Information Technology Risk Mitigation Plan to address operational recovery security threats and risk mitigation strategies.
4. The SISO, in collaboration with the Office of Privacy Protection, will lead the development and provisioning of security and privacy protection awareness for state management and staff.

Goal 4: Lower Costs and Improve the Security, Reliability and Performance of the State's IT Infrastructure

The state will develop a statewide Enterprise Architecture that will standardize and consolidate its information technology infrastructure and management to enable a more citizen-centered, customer focused government that efficiently and strategically manages its technology investments to achieve desired business outcomes.

The state must use its limited technology dollars wisely. The state of California needs an Enterprise Architecture (EA) to assist departments in their efforts to create consistent, secure, and interoperable information technology systems. The architecture will be an integral part of the governance process for information technology. The EA team, will use the IT mission and the State's key business drivers in order to build an architecture that enhances information sharing, guides technology standards, reduces application development costs and complexities, and better serves the needs of departments and the citizens of California.

Through the use of the enterprise architecture, infrastructure consolidation and enterprise-wide procurements, as well as the adoption of enterprise-wide standards, departments will be able to lower costs, and improve reliability and performance of the IT infrastructure.

Objective 1 – Adopt a Statewide Enterprise Architecture

Pursuant to the California Enterprise Architecture Framework, the state will adopt a statewide Enterprise Architecture to support business-driven, service-oriented IT solutions that facilitate the implementation of statewide technology standards in support of enterprise data sharing and statewide systems interoperability.

The State will adopt and implement the California Enterprise Architecture as a foundation to support the business driven implementation of Information Technology across the enterprise. Enterprise Architecture provides the foundation for which several of the other goals of the IT Strategic Plan may be delivered.

Actions:

1. There will be a Chief Enterprise Architect who reports to the State CIO with responsibility for developing, maintaining, marketing and publishing the State of California Enterprise Architecture. The Chief Architect will collaborate with the Director of E-Services, the State GIO, the SISO, the Office of Technology Oversight and Security (OTROS), the State Privacy Officer, the Agency Information Officers (AIO's) and CIO's. The Chief Architect is also responsible for and leads the California Enterprise Architecture Program (CEAP).
2. By May 2006, the California Enterprise Architecture Program (CEAP), using the California Enterprise Architecture Framework adopted by the IT Council in 2005, will

develop the following Enterprise Architecture deliverables using the segment and domain approach:

   a. California State Portal (Goal 1)
   b. Business Management Systems (Goal 2)
   c. Identity, Authentication and Privacy (Goal 3 and 4)
   d. GIS (Goal 1)

3. By May 2006, the CEAP will develop a plan for the strategic development and ongoing maintenance of the following Enterprise Architecture domain deliverables:
   a. Business – Business Reference Model (BRM)
   b. Data – Data Reference Model (DRM)
   c. Application – Service Component Reference Model (SRM)
   d. Technology – Technology Reference Model (TRM)
4. By October 2006, the CEAP, working under the general guidance of the IT Council's Enterprise Architecture Committee, will develop the California Technology Standards Process and begin to document and publish the standards for the State of California Enterprise Architecture.

Objective 2 – Consolidate Technology Infrastructure and Services

The state will consolidate its technology infrastructure and services to leverage the economies of scale in the utilization of resources, eliminating unnecessary redundancies and reducing support cost through standardization.

These efforts will align with the development of the enterprise technology architecture and implement the strategic direction for the use and deployment of information technology solutions statewide. Technology consolidation will increase the security, robustness and reliability of the state's technology infrastructure and improve budget allocation and performance management, cross-agency collaboration, information sharing and e-government solutions.

Actions:

1. By March 2006, the Director of the Department of Technology Services (DTS) will submit plans to the State CIO and the Technology Services Board for security consolidation including a variety of security services provided by the Department of Technology Services (DTS) and other providers that will address such services as patch management, password protection, SPAM filtering, whitehat hacking, operational recovery, encryption services for email and data storage, secure communications and certificate authority.
2. By June 2006, the Director of the Department of Technology Services (DTS) will submit plans to the State CIO and the Technology Services Board for email consolidation including multiple service offerings.
3. By July 2006, to reduce the State's reliance upon unsustainable legacy applications and systems, the State CIO will designate one or more demonstration projects for the cost-effective, efficient use and modernization of legacy applications and systems.

4. By December 2006, the Director of the Department of Technology Services (DTS) will submit plans to the State CIO and the Technology Services Board for network consolidation including the DGS/Calnet, Department of Transportation (DOT), and Department of Technology Services (DTS) networks.
5. By December 2006, the Director of the Department of Technology Services (DTS) will submit plans to the State CIO and the Technology Services Board for server consolidation beginning at the department level and developing into consolidation at the Department of Technology Services (DTS) where appropriate.
6. By January 2007, the State CIO and the Department of Technology Services (DTS) will establish a statewide telecommunications strategy that will be business-focused and provides a new platform for video conferencing, telecommuting, long-distance learning and Voice over IP (VoIP) capabilities. The strategy should also encompass policies to expand wireless and statewide broadband access to the Internet.

Objective 3 – Pursue Enterprise-Wide Procurements

The state will pursue the enterprise-wide procurement of technology using enterprise architecture and standards as a framework to leverage buying power and support the implementation of standards and consolidation.

Enterprise-wide procurements can achieve lower overall pricing, reinforce procurement best practices and responsiveness to business needs, improve systems security and facilitate the integration of systems and support of procurements across agency boundaries. The Department of General Services' (DGS) ongoing strategic sourcing initiative will establish the first wave of enterprise-wide information technology procurements, and that program needs to be made a permanent feature of our acquisition strategies.

Actions:

1. The State CIO will collaborate with the Department of General Services (DGS) and the Department of Finance (DOF) to establish an enterprise procurement policy and framework for the development, funding and implementation of enterprise contractual agreements.
2. Working with the IT Council's Acquisitions Workgroup, the Department of General Services' (DGS) and Department of Technology Services (DTS) will negotiate on all departments' behalf statewide software license agreements with the appropriate volume discounts to save the state both one-time and ongoing costs.

Goal 5: Strengthen our Technology Workforce

The State will strengthen its information technology workforce to meet the needs and challenges of supporting a large and complex public-sector organization in the 21st Century.

The structure of the state's technology workforce has not kept pace with the changing environment of technology. Skills needed to sustain critical legacy systems are being lost due to retirements. Yet, the state has not been able to acquire sufficient skills or capacity to develop, operate and/or maintain newer technologies and systems. With a wave of likely retirements facing us in the next three to five years, we must continue with appropriate succession planning which includes building an effective and comprehensive training program for IT staff and managers.

Objective 1 – Lead Succession Planning

The State will engage in IT Succession Planning to assist in the transition of the State's IT workforce to the future generation of IT leaders.

The State faces a workforce crisis in the next several years with a large number of impending retirements. We must plan in advance for this transition. The State will recognize and plan for the replacement of IT employees who will likely leave state service within the next three to five years. This plan will account for the unprecedented number of impending retirements, a focus on increasing diversity, and the increasing skills gap.

Actions:

1. By January 2006, the State CIO will convene a workgroup representing a broad cross-section of the State IT and HR community and business stakeholders to develop a succession plan for the IT workforce. The workgroup will identify the likely attrition of employees in IT classifications in the next three to five years, the skills gap of current and potential employees, and develop a plan for replacing qualified employees. This group will identify resources that can be used by state departments to complete their workforce and succession planning efforts.
2. By March 2006, the State CIO will request an inventory for the next four years of the IT skills needed statewide and a corresponding gap analysis of the state workforce skills projected to be available.
4. By August 2006, the State CIO, in collaboration with the Department of Personnel Administration (DPA) and the State Personnel Board (SPB), will develop a workforce and succession framework and plan for the IT workforce that can be used by individual departments in creating their own succession plans.

Objective 2 – Modernize the Information Technology Classification Structure and Selection Tools and Methods

The State will modernize the classification structure and selection tools for its technology workforce.

A more modern classification structure will more accurately reflect the work functions and skills needed to develop, operate and maintain its technology infrastructure, including programs, systems, services and features, and future technology changes. New selection tools will enable the State to assess competencies necessary to develop, operate, and maintain its technology infrastructure and future technology changes. These tools shall be cost effective, readily available, and shall identify individuals who are well qualified to perform current and future technology work. The classification structure must be flexible to match today's working environment; be easily adapted to changes in technology; and incorporate information developed by the Department of Personnel Administration (DPA) during the 1998-99 study, SEIU/DPA labor/management committee, other relevant reports, and subsequent Information Technology Managers Academy XII (ITMA XII) survey data. The selection tools must facilitate a skills-based certification process based upon job analyses that identify the relative importance of various job tasks; and may require enabling legislation.

Actions:

1. By April 2006, the State CIO Information Technology Human Resources (IT HR) Project Team will develop a concept paper, or "roadmap", to modernize the classification structure and selection tools for the IT workforce. The roadmap must consider replacement of the State Personnel Board (SPB) legacy system to ensure SPB's ability to support statewide IT and other current and future exams.

Objective 3 – Expand Recruiting Efforts for Technology Professionals

The State will develop a modern, ongoing recruitment program for IT classifications. This program will include recruitment of technology employees from colleges and universities, the private sector, the state workforce, and other public sector employers.

Actions:

1. By January 2006, the State CIO, in partnership with the SPB and departmental business stakeholders, will develop a new recruitment strategy using the November 2005 Associate Programmer Analyst open exam as a model.
2. By January 2006, the State CIO will convene the IT HR Committee's Recruitment Workgroup to assist the SPB in the development of a statewide ongoing recruitment strategy for IT classifications for open IT examinations being given. Recruitment techniques that prove successful in the November 2005 Associate Programmer Analyst open examination will be further developed and expanded for use with other IT open examinations. The recruitment strategy will focus on attracting well-qualified individuals

with technology degrees and/or experience from colleges, universities, trade schools, and the private sector.

Objective 4 – Provide Professional Development for Technology Personnel

The State will support and maintain a robust technology training program focused on leadership, communication, CIO and IT managers training, project management, network and infrastructure management, applications development and other skills necessary to support current and new technologies.

Actions:

1. By March 2006, the IT HR Committee Training Workgroup will establish a process to update and maintain the ITMA XII "IT Professional Development Curriculum & Catalog". This effort will be web-enabled and electronically distributed to improve the ability of state IT employees to meet the IT strategic goals of the state.
2. By June 2006, the IT HR Committee Training Workgroup will identify and publish centers of excellence for IT specialty areas, such as security, GIS, project management, web development, database administration, and quality assurance to assist state agencies in addressing technical and capacity issues.
3. By June 2006, the IT HR Committee Training Workgroup will draft a proposed leadership training program for CIOs, IT managers and supervisors and Information Security Officers (ISOs).
4. By December 2006, the IT HR Committee Training Workgroup will draft a list of common competencies and a staff development strategy for the State's human resources practitioners so that they may be better equipped to help improve the IT workforce.

Goal 6: Establish a Technology Governance Structure

The State will establish a technology governance structure to improve the application of technology and its effective use across state agencies.

The governance structure will ensure:

- Business and program responsiveness,
- Successful and relevant strategic planning and decision-making,
- Oversight and alignment of information technology projects and operations to ensure consistency with strategic policies, and
- Operational implementation by those most directly responsible for program performance.

Objective 1 – Establish a Layered Technology Governance Structure

The State will establish a layered governance structure for technology that clearly assigns authority and responsibility for management and support services at the appropriate levels to reinforce the state's technology potential while ensuring collaboration with and input and participation from state agencies.

Actions:

1. By January 2006, the State CIO and the Department of Finance (DOF) will have completed the drafting of a comprehensive legislative and administrative proposal to implement the technology governance structure. See Appendix A for a proposed governance structure.
2. The State CIO and the Department of Finance (DOF) will work with the Little Hoover Commission, the Legislative Analyst's Office, other stakeholders and the Legislature to secure the passage of a stable IT governance structure consistent with the general principles set forth above under Goal 6.

Objective 2 – Improve Management of the State's IT Portfolio

The State will develop and implement a statewide system to manage its portfolio of IT applications, systems and projects, to integrate the management of technology initiatives into an overall statewide vision and strategy for IT. Agency CIO's will be assigned oversight responsibility for IT portfolios within their program areas.

The availability of portfolio information on a statewide basis will promote the strategic management of the State's technology investments to ensure they are integrated with and supportive of statewide business objectives. To effectively provide services to the public and

client groups, the State must understand the portfolio of applications, systems, and projects that consume resources and are available to support current and future program needs and strategies.

Actions:

1. By May 2006, the State CIO will evaluate the need for an enterprise portfolio management software tool for use by Agency and Department CIO's statewide.
2. By June 2006, all Agency CIO's will compile basic information about their Agency IT activities and assume responsibility for oversight of their respective Agency technology portfolio.
    a. They will apply standard performance management tools (such as earned value) to all major projects under development.
    b. They will develop and apply metrics to all major operational systems to assess performance and identify when management action is needed to address system issues.
    c. They will determine where duplicative or overlapping systems may exist and coordinate efforts between departments to consolidate or interrelate those systems, such as geospatial databases that support Geospatial Information Systems.

Objective 3 – Implement Performance Measures

The State will develop performance measures and methodologies to assist in managing its technology systems and services.

While comprehensive performance measures depend on more robust enterprise financial and resource management systems than exist today in state government and on more complete definitions of business needs, steps will be taken to improve performance review, prepare for more rigorous performance evaluation tools in the future, establish baselines, and encourage better performance from technology systems.

Actions:

1. By June 2006, the State CIO will establish a high-level cross-departmental Performance Measurement Advisory Committee to adopt standard methodologies for service delivery (such as Information Technology Service Management – ITSM) and project management (such as Project Management Institute - PMI).
2. By July 2006, the Director of the Department of Technology Services (DTS) will implement a pilot project at the Department to measure key metrics for managing day-to-day IT operations, and measure service level metrics, for the specific business needs of selected clients.
3. By October 2006, the Performance Measurement Advisory Committee will adopt and promote standard model(s) for defining and measuring performance, such as the Balanced Scorecard, Economic Value Added, Service Level Agreements, or

Benchmarking, and provide support to state Agencies and Departments in developing baselines and ongoing plans for reporting performance to their management.

Appendix A

Proposed Technology Governance Structure

The governance structure will be comprised of the following component layers:

A. A State Chief Information Officer (State CIO) who is a senior advisor to the Governor with full responsibility and authority for statewide technology vision, strategic planning and coordination, technology policies and standards for secure technology solutions, technology architecture, project management and defining a streamlined technology project review and approval process. The State CIO will lead an office that includes, among other things, leadership positions for Information Security, e-Services, Geospatial Information Systems, Enterprise Architecture and Workforce Planning.

B. Agency Chief Information Officers (Agency CIOs) who are responsible for overseeing departmental management of assets, projects, data systems, and IT services, through a reporting oversight of departmental CIO's. Each Agency CIO shall develop a 3-year plan to rationalize and standardize within their respective Agency, the IT infrastructure, data, and procedures for all departments within the Agency.

C. A strengthened Departmental CIO function, with Department CIOs directly responsible for all IT activities within the department and accountable to their department director and Agency CIO for purposes of reporting departmental IT performance. All employees in IT classifications and all IT systems, assets, projects, purchases, and contracts will be accountable to the Department CIO, who will, under the direction of the department's governance authority, establish standards and procedures to promote efficient and effective use of IT resources throughout the department. Each Department CIO will develop a 3-year plan to rationalize and standardize the department's infrastructure, data, and procedures, consistent with the Agency plan developed by the Agency CIO and will report performance, accomplishments and issues to the Agency CIO.

Appendix B

Graphical Strategic Plan Summary Charts

Appendix C

2005 Accomplishments

STATE CHIEF INFORMATION OFFICER
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November 1, 2005

Dear Friends,

Over the last several years, we have been steadily working to improve the Executive Branch's information technology (IT) program. This has been a collaborative effort involving literally hundreds of the State's programs, and IT leaders and staff. We have benefited from consultations with other public sector Chief Information Officers, and we have spent a great deal of time consulting with IT experts and leaders in the private sector to ensure that our own improvements track developments and lessons learned elsewhere.

An information technology program as large as the Executive Branch's is an inherently complex undertaking and brings with it certain unavoidable risks. There will always be bumps in the road and lapses of one sort or another. But I believe it is important to recognize improvements and achievements when they occur, and I am pleased to report several very significant recent developments:

- **Adoption of the 2004 California State Information Technology Strategic Plan (enclosed).** The Plan, adopted by the Information Technology Council in October 2004 (for information about the IT Council and the Plan, see www.cio.ca.gov) guides the acquisition, management and use of technology within the Executive Branch of State government for the next five years (2005–2009). The ideas and contents of the plan had been under development and consideration for over two years and represent the collective research and judgment of scores of IT leaders.

- **Creation of the new "Department of Technology Services."** Consistent with the strategic plan's goals of consolidating the management of the Executive Branch's IT infrastructure, effective July 9, 2005, we have merged the State's two general-purpose data centers, the Stephen P. Teale Data Center and the Health and Human Services Data Center, along with the Office of Network Services from the Department of General Services (DGS). The resulting entity, the Department of Technology Services (DTS), will provide the Executive Branch with cost-effective and secure technology and telecommunications services. In the context of the merger, we are adopting a more

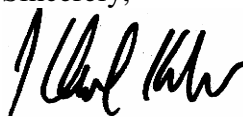
"customer-oriented" mission and philosophy to govern the Department of Technology Services (DTS). For more information, visit the website at www.dts.ca.gov.

- **Execution of Strategically-Sourced Contracts for personal computing IT Hardware.** The State has at times had difficulty in procuring IT systems and services. A new model – a collaborative and fully engaged model – is now emerging for major IT purchases. The new statewide contracts for personal computers, monitors, laptops, printers and other peripheral devices offer a great combination of significant savings, excellent quality and a first for the State: common configurations established with the active assistance of the Information Technology Council's Acquisitions Committee. It is estimated that California could save $22 million a year on IT hardware purchases using these new contracts. For more information, visit DGS's strategic sourcing website at www.pd.dgs.ca.gov/StratSourcing/contractsindex.htm.

There are many other initiatives underway to implement our strategic plan. Significant work has begun to establish an Enterprise Architecture for the Executive Branch's operations and IT systems that support those operations. We are working on an approach and plan to take the State's web pages to the next level of services, functionality and sophistication. We are examining opportunities to improve the State's "back office" systems that support such fundamental functions as budgeting, accounting, human relations and procurement. We are examining ways of better securing our information technology systems and the information of which we are the custodians. We are working to assure we develop and build a skilled information technology workforce to meet the needs and challenges of supporting a large and complex organization faced with mass retirement of program and technology knowledgeable staff. And we are constantly striving to ensure that major IT projects remain on track.

Our ultimate goal is a simple one: We want to do IT right. We have made substantial improvements on a number of fronts, but much more work remains to be done. If you have questions or comments about the Executive Branch's IT program, please do not hesitate to contact me or visit my website at www.cio.ca.gov.

Sincerely,



J. Clark Kelso
Chief Information Officer
State of California

Glossary of Terms and Acronyms

Terms

Application Program	A complete, self-contained program that performs a specific function directly for the user.
California Enterprise Architecture Program	The California Enterprise Architecture Program develops, maintains and enables the implementation of the California Enterprise Architecture.
California Portal	The State of California web page that provides links to the services offered by its organizations.
Data Model	A model that describes data flows and data needed to support high-level business functions.
Domain	A collection of logically related entities (e.g., Business, Data, Application, and Technology) used to simplify analysis and to organize Enterprise Architecture deliverables.
Enterprise Architecture	A description of the technical framework that a business or enterprise uses to conduct its business over computing and telephone networks
Government Galleria	A concept of the new State portal with expanded web services that will provide the architecture and technology platform to enable a smoother integration of efforts across organizational boundaries, and that will support the rapid, economical implementation and delivery of new services to customers.
Infrastructure	The basic computing and telecommunications structure, support services, or features of a system or network.
Legacy Application	An application in which a company or organization has already invested considerable time and money. Typically, legacy applications are or use database management systems (DBMS) running on mainframes or minicomputers. An important feature of new software products is the ability to work with a company's legacy applications, or at least be able to import data from them.
Legacy system	A computer system which continues to be used because of the cost of replacing or redesigning it and often, despite its poor competitiveness and compatibility with modern equivalents. The implication is that the system is large, monolithic and difficult to modify.

Portfolio Management	Portfolio Management is a system used to select a list or portfolio of technology investments to achieve the following: • Support the strategy of the enterprise • Rank or Prioritize Projects • Manage resources effectively and efficiently • Maximize the profitability or value of the portfolio
Segment	A targeted line of business that typically slices through all four architecture domains: business, data, applications, technologies.
Segment Approach	Promotes the incremental development of architecture products with a focus on lines of business (e.g., security or common financial systems) that is more likely to succeed because the effort is more narrowly defined.

Acronyms

AIO	Agency Information Officer
CEAP	California Enterprise Architecture Program
CIO	Chief Information Officer
CRM	Customer Relationship Management
CPR	California Performance Review
DGS	Department of General Services
DOT	Department of Transportation
DTS	Department of Technology Services
EA	Enterprise Architecture
EAP	Enterprise Architecture Program
ERP	Enterprise Resource Planning
GIO	Geospatial Information Officer
GIS	Geospatial Information System
HHSDC	Health and Human Services Data Center
ISO	Information Security Officer
IT	Information Technology
ITC	California IT Council
ITMA XII	Information Technology Managers Academy XII
PMI	Project Management Institute ®
SCO	State Controllers Office
SISO	State Information Security Officer
TDC	Teale Data Center

Contributors

The State CIO extends his appreciation to all the people who contributed to the California State Information Technology Strategic Plan. Their dedication produced this plan charting the IT direction for the Executive Branch of the State of California for the next four years.

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